4.4 TRANSPORTATION/CIRCULATION

This section analyzes the potential effect of implementation of the DMP Update components on transportation/circulation within Carlsbad.

4.4.1 Existing Conditions

4.4.1.1 Program Level

Freeways providing access to Carlsbad include I-5, which runs north-south parallel to the coast, and SR 78, which runs east-west at the city's northern boundary. The city contains three prime arterial roadways: El Camino Real, which runs north-south through the center of the city; Palomar Airport Road, which runs east-west through the center of the city; and Rancho Santa Fe Road, which runs along the southern and eastern boundaries of the city. Carlsbad Boulevard is a major north-south road along the Pacific Coast. East-west roads with interchanges at I-5 include La Costa Avenue, Poinsettia Lane, Palomar Airport Road, Cannon Road, Tamarack Drive, Carlsbad Village Drive, and SR 78 (refer to Figure 1-2 in Chapter 1.0 for a map of the major transportation corridors within Carlsbad).

Transportation corridors within the city are generally meandering, constrained by natural topographic conditions (e.g., steep hills, lagoons). The more densely developed redevelopment area in the northwest portion of the city contains a more traditional grid-like street system. As development in the city increases, traffic congestion is an increasing concern. Transportation in Carlsbad is primarily auto-oriented; however, the General Plan Circulation Element (City of Carlsbad 2004) provides for automobile, truck, bicycle, pedestrian, and public transit modes. The city provides access to and from I-5 for eastern communities/cities. In addition, because of its location between Los Angeles and San Diego, the city experiences a significant amount of through-traffic.

Applicable Plans and Regulations

Regional

The San Diego County congestion management agency is SANDAG. The Congestion Management Program was first adopted on November 22, 1991, and is intended to directly link land use, transportation, and air quality through level of service (LOS) performance. Local agencies are required by statute to conform to the CMP. The CMP requires an enhanced CEQA

review for any development project generating more than 2,400 average daily trips (ADT) or more than 200 peak hour trips and 2,400 ADT. The DMP Update project components are public infrastructure-related projects and as such would not generate additional traffic trips. Generally, traffic associated with drainage infrastructure improvements consists of construction truck traffic. Construction traffic for the DMP Update components is expected to be less than 200 peak hour trips. Therefore, a CMP enhanced review is not required.

Local

Most streets are paved with curbs and gutters, with existing drainage infrastructure located in or adjacent to public street rights-of-way for easy access and maintenance. Private roadways and easements are also used to provide access to existing drainage facilities. Where construction occurs in public right-of-way, the City has developed standardized procedures for regulating traffic during construction projects. The procedures are based on the accepted engineering principles and practices cited in the Caltrans Traffic Control Manual for traffic safety and control in construction work zones. These procedures include traffic schedules, signage, lighting, lane configurations, and lane markers.

The City's Growth Management Program requires that no road segment or intersection in or out of an LFMZ that is affected by development in a particular LFMZ shall be projected to exceed LOS C for a particular segment during off-peak hours, nor LOS D during peak hours.

4.4.1.2 Project Level

The proposed dredging and improvements in Agua Hedionda and Calavera creeks are located adjacent to the intersection of El Camino Real and Cannon Road. In the General Plan Circulation Element, El Camino Real is classified as a Prime Arterial with three lanes in each direction south of Cannon Road and two lanes each way north of Cannon Road. Cannon Road is classified as as a Major Arterial with four lanes west of El Camino Real and one lane each direction east of El Camino Real (City of Carlsbad 2004). The existing traffic volumes (2004) are shown in Table 4.4-1.

Table 4.4-1
Existing Traffic Average Daily Trip Volumes and Levels of Service

Location	ADT	LOS (AM Peak)	LOS (PM Peak)
Cannon Road			
Faraday Ave. to El Camino Real	9,300	A	A
El Camino Real to College Blvd.	14,700	A	A
El Camino Real			
Kelly Drive to Cannon Road	27,700	A	A
Cannon Road to College Blvd.	32,500	B	B
Intersection of El Camino Real and Cannon Road	NA	A	B

Source: SANDAG 2006; City of Carlsbad 2005
ADT = average daily trips; LOS = level of service

LOS is a quality of service measure that describes operational conditions on a transportation facility, such as a roadway or intersection. This service measure is a general overall measurement of several conditions such as speed and travel time, freedom to maneuver, traffic interruption, comfort, and convenience. Six LOS categories are defined for each type of facility. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each LOS represents a range of operating conditions and the driver's perception of those conditions. Safety is not included in the measures that establish service levels (County of San Diego 2004).

LOS for the roadway segments and intersection shown in Table 4.4-1 were calculated for the Robertson Ranch Master Plan EIR (City of Carlsbad 2006). Segment LOS was determined by comparing the peak hour traffic volume per lane to the capacity of the lane at the LOS E/LOS F threshold. For road segments in San Diego County, the goal is for operations at LOS D or better. As shown in Table 4.4-1, the roadway segments of El Camino Real and Cannon Road adjacent to the project site, and the El Camino Real/Cannon Road intersection all operate at an acceptable LOS A or LOS B.

4.4.2 Significance Criteria

The proposed DMP Update would have a potentially significant impact to transportation and circulation within Carlsbad if it would:

- cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- exceed, either individually or cumulatively, an LOS standard established by the County congestion management agency and the City's Growth Management Program for designated roads or highways;
- result in inadequate emergency access; or
- result in insufficient parking capacity.

4.4.3 Impact Analysis

4.4.3.1 Program Level

PLDA Project Components

Due to the nature of the proposed drainage infrastructure improvements, the DMP Update project components would not increase traffic in relation to the existing traffic load and street system capacity. Short-term traffic impacts would occur during construction; however, the principal traffic impacts during the implementation of PLDA project components would occur for those project components where construction would be required to install or replace facilities within existing roadways. Examples of these projects would include PLDA projects BB in Washington Street and BCA in Park Drive and Tamarack Avenue. Other project components would require construction across roadways. As part of the standard construction practices, implementation of the required traffic control measures in the traffic control plans would avoid traffic-related impacts due to lane closures. The provision of roadway detours as needed, limitations on construction hours to avoid peak traffic times, and use of signage would minimize congestion and provide emergency access at all times. Impacts would be less than significant.

The PLDA project components would generate truck traffic for the import and removal of materials and equipment from project sites, as well as light vehicle traffic for commuting work crews. The volume of traffic is not expected to exceed 200 peak hour trips per day or increase traffic on roadways to a level that would result in the degradation of LOS at intersections or on roadway segments. However, the ingress and egress of heavy trucks to and from project sites could cause a significant safety hazard to motorists and pedestrians due to congestion, lane closures, or crossing hazards. A detailed traffic control plan including signage and flaggers, and other warning devices to allow heavy equipment on roadways, would provide adequate measures

to ensure public safety of motorists and pedestrians located near proposed construction areas. Potential impacts would be less than significant.

Non-PLDA Project Components

Similar to the PLDA project components, non-PLDA project components would also occur within roadways or require construction across roadways. Potential safety impacts described above for PLDA project components would also occur with non-PLDA project components. Therefore impacts would be the same as discussed above. The traffic control requirements previously described would provide adequate measures to maintain transportation and circulation within acceptable LOS. Overall, potential impacts to transportation/circulation would be less than significant.

4.4.3.2 Operation and Maintenance

Many operation and maintenance activities would not take place in roadways or interfere with normal circulation. However, some maintenance actions include roadway, culvert, and bridge rehabilitation and replacement. These activities have a potential to cause lane closures, congestion, and impeded emergency access similar to PLDA and non-PLDA project components, which would be potentially significant impacts. The traffic control requirements described above for PLDA and non-PLDA project components would ensure that potential impacts to transportation and circulation during maintenance activities would be less than significant.

4.4.3.3 Project Level

PLDA Projects

The dredging of the Agua Hedionda and Calavera creek channels would not occur within El Camino Real or Cannon Road; however during construction, truck traffic would access the site via El Camino Real and Cannon Road. Ingress and egress of truck traffic along both roadways would be required during construction activities. To ensure that vehicles do not cause traffic hazards or safety problems, a traffic control plan, including measures such as notices, signage, flaggers, and other warning devices to control heavy equipnment traffic and direct pedestrians to safe crossings, would be implemented for the project, as described in Table 3-6 of

this EIR. Trip generation for removal of channel spoils is estimated to average 60 ADT (i.e., 30 round trips per day). This number of trips would not result in a substantial increase in local traffic, or substantial degradation of segment or intersection LOS. Additionally, the traffic capacity at El Camino Real and Cannon Road is currently operating at acceptable LOS of A or B. The increase in truck traffic for the project components would not result in a substantial increase in truck traffic during construction; therefore, the LOS would remain acceptable (i.e., LOS A or B). As stated in Section 3.4.3 of the Project Description, if the City decides to pursue beach replenishment (Option 1), the haul route for transporting dredge materials to the beach replenishment site and associated traffic control for the project would be consistent with the approved measures established in the Opportunistic Beach Fill Replenishment EIA/MND. Alternatively, if dredge material is to be disposed of at an off-site location (Option 2), the project would require a City Haul Route Permit and haul routes would be consistent with the City's approved truck haul route map. Potential impacts would be less than significant.

Emergency access to and from the Rancho Carlsbad community and surrounding land uses would be maintained during construction. As required by the construction practices described in Table 3-6, the traffic control plan would include measures to ensure that vehicles would not cause traffic hazards or safety problems. Therefore, impacts to emergency access are not anticipated for the project level PLDA components.

Non-PLDA Project Components

The ongoing long-term maintenance of the creek channels would not occur within El Camino Real or Cannon Road. Truck traffic may be required to enter and exit the site for the purpose of hauling sediment and waste materials. As required by the construction practices described in Table 3-6, and if considered necessary, a traffic control plan, including the measures described above for PLDA project components, would be implemented for the project to ensure that vehicles would not cause traffic hazards or safety problems. Trip generation for removal of channel spoils is likely to be much less 60 ADT estimated for the PLDA projects. This number of trips would not result in a substantial increase in local traffic or substantial degradation of segment or intersection LOS. The proposed non-PLDA components would not result in a substantial increase in truck traffic during construction; therefore, the LOS would remain acceptable. Potential impacts would be less than significant.

4.4.4 Significance of Impacts

4.4.4.1 Program Level

No direct or indirect potentially significant short- or long-term transportation and circulation impacts are expected to occur with implementation of the program level DMP Update components.

4.4.4.2 Operation and Maintenance

No direct or indirect potentially significant short- or long-term transportation and circulation impacts are expected to occur with implementation of operations and maintenance activities for the DMP Update components.

4.4.4.3 Project Level

No direct or indirect potentially significant short- or long-term transportation and circulation impacts are expected to occur with implementation of the project level DMP Update components.

4.4.5 Mitigation Measures

4.4.5.1 Program Level

No potentially significant impacts were identified, and no mitigation measures would be required.

4.4.5.2 Operation and Maintenance

No potentially significant impacts were identified, and no mitigation measures would be required.

4.4.5.3 Project Level

No potentially significant impacts were identified, and no mitigation measures would be required.

This page intentionally left blank.